



AN ALTERNATIVES ANALYSIS
OF THE
ROCK ISLAND COMMUTER RAIL SERVICE
by
Howard Permut *

TR-76-09

*Howard Permut, principle author and analyst

Project Team

Dan Brescia
Jim Cole
Inwon Lee
Paul Oppenheim
Marda Zimring

Technical Report Series Presented By

Planning and Development Department
Regional Transportation Authority
(Northeastern Illinois)
300 North State Street
Chicago, Illinois 60610

June 1976

TIRAN
HE
2585.C4
R336
c.2

CONTENTS

- I. OVERVIEW
- II. ALTERNATIVES
- III. RECOMMENDATIONS
- IV. EVALUATION METHODOLOGY
- V. EVALUATION SUMMARY TABLE
- VI. ALTERNATIVE EVALUATIONS
- VII. DISCUSSION OF EQUIPMENT AVAILABLE FOR REHABILITATION AND USE ON SUBURBAN PASSENGER SERVICE
- VIII. APPENDICES
 - A. I. DETAILED ALTERNATIVE SPECIFICATION
 - B. II. DETAILED RAIL CAPITAL COST FOR ROCK ISLAND REHABILITATION
 - C. III. DETAILED EQUIPMENT COST
 - D. IV. DETAILED COMMUTER RAIL OPERATING COSTS, BY ALTERNATIVE
 - E. V. DETAILED BUS AND RAPID TRANSIT OPERATING AND CAPITAL COSTS
 - F. VI. DETAILED POPULATION PROJECTIONS
 - G. VII. TERMINATION OF ROCK ISLAND AT MICHIGAN CENTRAL YARDS, JOLIET

Note to Reader

This analysis is presented as a case-study of a major alternative analysis evaluation done by the Planning Department of the Regional Transportation Authority. At the initiation of the study, the basic policy issue facing the Authority was: what is the future of the Rock Island Commuter Railroad?

A series of alternative services were developed, ranging from complete rehabilitation to partial rehabilitation to total replacement by bus service. The alternatives were evaluated in terms of capital cost, operating deficit, user cost, social impact, environmental impact and operational feasibility. Based on the above criteria, the report recommended a complete rehabilitation of the railroad, and a changing of the railroad's downtown Terminal.

From a more general perspective, the report is an empirical analysis of the trade-offs between commuter rail and bus service. As is clearly shown in the report, no type of bus service (feeder to rapid transit, feeder to other commuter rail lines, or express to the downtown) in this corridor can achieve the efficiencies that are associated with a rebuilt Rock Island Railroad.

Finally, it should be explained that the outline format of the report is due to both the function of the report as input to a policy-making board, and to time limitations in preparing the report. Also, it can be noted that, based on this report, the RTA Board decision has been in the direction of rehabilitating the entire Rock Island service.

Acknowledgements

The team would like to thank Dr. M. J. Bernard for his general comments and Cindi Kernis for her graphics.

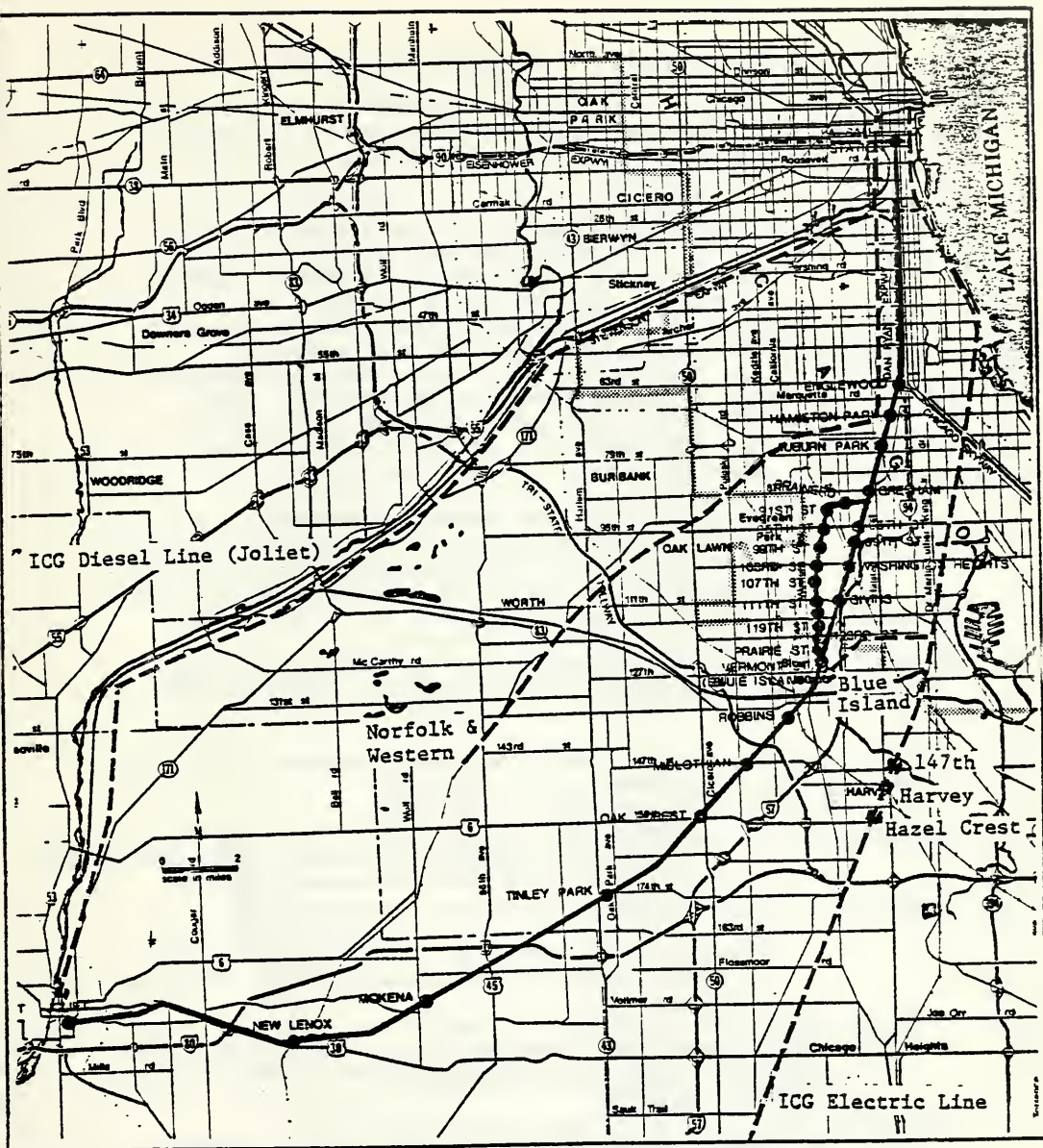
I. OVERVIEW

A. Existing Situation

1. Rock Island Physical Plant
 - a) Only a single track on the Main Line is in operation for commuter service
 - b) The rolling stock is seriously deteriorated with only 28% of the coaches up to present equipment standards
 - c) The track is seriously deteriorated with the entire system operating under various speed restrictions
 - d) UMTA has granted \$42 million which will replace all locomotives and over-age cars
2. Rock Island Passengers
 - a) The average daily ridership is 26,000 riders (13,000 each way)
 - 1) 93% of the riders travel to the Chicago Central Business District (CBD)
 - 2) 53% of the riders originate on the Beverly Branch
 - 3) 80% travel in the peak period
 - b) Since 1969, total ridership has decreased by 2%. However, ridership has increased at the stations west of Blue Island.
 - c) Since 1969, passenger revenues have increased 10% due to higher fares but the operating deficit has increased 233%.
 - d) In FY 1976, the Rock Island had a deficit of \$4.7 million.
3. Projected Development in the Rock Island Corridor
 - a) The Beverly area is fully developed and stable, a situation which can only be strengthened by the Mayor's residency requirements.
 - b) A 72% population gain from 209,000 in 1970 to 360,000 in 2000 is projected for those suburban Cook and Will County townships beyond Blue Island which comprise the Rock Island corridor.
 - c) The municipalities in Will and suburban Cook Counties now served by the Rock Island will experience a 129% population increase from 146,000 in 1970 to 335,000 in 2000.

ROCK ISLAND RAILROAD COMMUTER SYSTEM DAILY RIDERSHIP TOTALS

SUBURBAN LINE <u>7120</u>			MAIN LINE <u>6152</u>		
<u>Station</u>	<u>One Way Riders</u>		<u>Station</u>	<u>One Way Riders</u>	
Englewood	7				
Hamilton Park	10				
Auburn Park	3				
Gresham	30				
Brainerd	243				
Beverly Hills-91st	1119				
" "	95th	1190	Longwood Manor-95th	25	
" "	99th	786	" "	99th	70
" "	103rd	1212	Washington Heights	91	
" "	107th	419			
Morgan Park-	111th	1130	Givins	26	
" "	115th	386			
Blue Island-	119th	212			
" "	123rd	334			
" "	Prairie	<u>39</u>			
	7120		Blue Island-Vermont	1067	
			Robbins	34	
			Midlothian	960	
			Oak Forest	1013	
			Tinley Park	1600	
			Mokena	380	
			New Lenox	320	
			Joliet	<u>566</u>	
				6152	



CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD
SUBURBAN TRAIN SERVICE

B. Guaranteed Lease or Partial Ownership

1. The advisability of RTA improving the Rock Island to assure continuance of its commuter service is complicated by the railroad's bankruptcy.
2. The Rock Island has proposed retaining one of its two main line tracks for freight, while selling the other to RTA for commuter service. The resulting single track operation is impractical since it prevents any equipment recycling and curtails any possibility of future reverse commuting or hourly off-peak train service. The RTA staff has concluded that both tracks are necessary for satisfactory commuter service.
3. Assurance of the continued availability of Rock Island tracks for commuter service could be accomplished through one of the following methods (none of which has yet been discussed with the Rock Island):
 - a. RTA ownership of both main line tracks; grant freight trackage rights to Rock Island.
 - b. Joint RTA/Rock Island ownership of both tracks.
 - c. Long-term RTA trackage rights on both main line tracks with these rights guaranteed with any potential successor to Rock Island.

This problem should be resolved before RTA invests public funds in Rock Island commuter service.

C. Labor Protection, Section 13(c) of the Urban Mass Transportation Act, and Its Effect on Rock Island Commuter Service

1. Any discontinuance of Rock Island commuter service will encounter service problems under the labor protection portions, Section 13(c) of the Federal Urban Mass Transportation Act.
 - a. Under Section 13(c), any UMTA grant for mass transportation facilities must receive approval from organized labor in the affected region.

- b. Federal grant funds may not be used for a project which will have an adverse impact on workers of another carrier, and all the alternatives would require UMTA funding.
- 2. Abandonment of the Rock Island's commuter service, and the substitution of bus service for commuter trains would result in an adverse impact upon Rock Island employees.
 - a. Buses purchased with UMTA funds would be subject to Section 13(c) approval.
 - b. It is extremely doubtful that rail unions would ever approve such a grant.
- 3. Any grant application to purchase the Rock Island commuter service which could transfer operating employees to another agency, such as RTA or another railroad, could also encounter labor opposition.
 - a. An important benefit of existing labor contracts on each railroad is the ability of operating employees to retain railroad seniority without regard to passenger or freight service.
 - b. By severing commuter service from the remainder of the railroad, the operating employees in commuter service would lose the ability to retain job seniority in freight service.
- D. LaSalle Street Station vs Union Station as Chicago CBD Terminal.
 - 1. LaSalle Street Station
 - a. Is closer to the final CBD destination of present Rock Island passengers in the financial district.
 - b. Has a lower operating cost due to higher trackage and wheelage charges at Union Station. However, the Union Station costs would be largely offset by deficit decreases for other railroads entering Union Station and, in the long-run, by public ownership of Union Station.

2. Union Station

- a. Is better operationally since it allows for consolidation of yards, shops, and passenger facilities.
- b. Enables existing Rock Island facilities north of 63rd Street to be developed for other uses.
- c. Allows for future operational coordination with other railroads.
- d. Allows for increased transfer capabilities with both other commuter railroads and Amtrak.
- e. The capital improvements associated with the Rock Island move would also benefit all Union Station passengers.

II. ALTERNATIVES

A. Definition

1. The alternatives were defined to encompass the widest possible range of realistic actions. They include both improvements to and replacements for the Rock Island commuter service.
2. For alternatives involving upgrading of the Rock Island, both LaSalle Street and Union Stations were evaluated as possible Chicago CBD terminals. Illinois Central Gulf Randolph Street Station was not treated as a possible Chicago CBD terminal in that it is inferior from both an operational and passenger service viewpoint.

a. Operational Problems

1. Inadequate track capacity at Randolph Street.
2. Mixing of electric and diesel services.
3. Unsatisfactory connection between the Rock Island and Illinois Central Gulf Main Line tracks.
4. Long lead times to implement the required capital facilities.
5. Inadequate train recycling ability due to increased running time.
6. Loss of future operational consolidation possibilities.
7. Increased operating costs due to longer routing.

b. Service Problems

1. Increased in-vehicle travel time for the Rock Island users.
2. Increased walking time to the primary passenger CBD destination in the financial district.
3. Decreased transfer capabilities to CTA Central Area buses, other commuter railroads, and intercity Amtrak trains.
4. Possible elimination of the heavily patronized Beverly Branch stations.

3. For alternatives involving feeder bus service to other commuter railroads, the Norfolk and Western was not considered as the line-haul railroad.
 - a. It is not as close to the present Rock Island Service area as either the Illinois Central Gulf Diesel or Electric lines.
 - b. Feeding the Norfolk and Western would require operating buses in a "reverse" direction, whereby passengers would travel away from the CBD to reach the line-haul mode. This has proven to be undersirable in both Philadelphia (on the Reading and Penn Central Commuter Lines) and New York (on the Long Island and Penn Central Railroads).
4. For Alternatives 7 and 8, replace the Rock Island with either express bus service to the Chicago CBD or feeder bus service to the Dan Ryan Rapid Transit Line, present Rock Island users are assumed to have three possible travel modes: the replacement bus service, the automobile, or a combination automobile-Illinois Central Gulf Main Line commuter rail mode. These two alternatives are the only ones in which automobile access to the Illinois Central Gulf main line is assumed to exist since for all other alternatives involving use of the Illinois Central Main Line, feeder buses to the Main Line are provided.

B. Alternative Specification

Alternative 1: Rehabilitate the Entire Rock Island System

- A. Union Station terminal in Chicago CBD
- B. LaSalle Street Station terminal in Chicago CBD.

Alternative 2: Rehabilitate from Joliet to Chicago via the Beverly Branch, Eliminate the Main Line from 127th Street to 87th Street

- A. Union Station terminal in Chicago CBD
- B. LaSalle Street Station terminal in Chicago CBD

Passengers on the Rock Island Main Line from 123rd Street to 95th Street take feeder buses to the Beverly Branch stations.

Alternative 3: Rehabilitate the Main Line from Joliet to Chicago, Eliminate the Beverly Branch

- A. Union Station Terminal in Chicago CBD
- B. LaSalle Street Station Terminal in Chicago CBD

Passengers on the Beverly Branch take feeder buses to the Rock Island Main Line stations, or to the 95th/Dan Ryan rapid transit station.

Alternative 4: Rehabilitate the Beverly Branch from Blue Island to Chicago, Eliminate the Main Line from Joliet to Blue Island

- A. Union Station Terminal in Chicago CBD
- B. LaSalle Street Station Terminal in Chicago CBD

Passengers on the Main Line from Joliet to Robbins take feeder buses to ICG diesel, ICG electric main line and Rock Island (Blue Island) stations, while passengers on the Main Line from Blue Island to 87th Street take feeder buses to the Beverly Branch stations.

Alternative 5: Rehabilitate a Single Track on the Main Line from 87th Street to Joliet, and Rehabilitate the double tracks on the Beverly Branch and on the Main Line between 87th Street and Chicago

- A. Union Station Terminal in Chicago CBD
- B. LaSalle Street Station Terminal in Chicago CBD

Alternative 6: Abandon the Rock Island and Feed the ICG Diesel, the ICG Electric Main and Blue Island lines, and the Dan Ryan Rapid Transit Line

Alternative 7: Abandon the Rock Island and Provide Express Bus Service from each Station Service Area to the Chicago CBD

Alternative 8: Abandon the Rock Island and Feed the 95th/Dan Ryan Rapid Transit Station

III. RECOMMENDATIONS

A. General

1. The rerouting of the Rock Island commuter service to Union Station is, in the long run, a superior alternative than continuing service to LaSalle Street Station.
2. The rebuilding of the entire Rock Island commuter service is the best alternative.
3. Abandonment of Rock Island service, regardless of substitute service provided, is highly inadvisable.

B. Specific

1. Excellent: Alternative 1A
 - a. Provides good service to present users, and attracts 1100 additional riders who presently use their automobiles.
 - b. Is best operationally in the long-term, allowing for considerable yard, shop and terminal consolidation. This would eliminate the capital costs for antiquated Rock Island shops and yards other than for stop-gap maintenance.
2. Good: Alternatives 1B, 2A, 2B
 - a. Alternative 1B provides excellent service to present users as well as attracts 1900 existing automobile users but is inferior operationally in the long-term as it would not allow consolidation economies.
 - b. Alternatives 2A and 2B provide good service to present users and divert 700 to 1500 present automobile drivers.
 - c. Alternatives 2A and 2B are less desirable operationally in that they require trains west of Blue Island to travel via the Beverly Branch, which is 10 minutes slower and is a more indirect route to the Chicago CBD than the Main Line.

3. Fair: Alternatives 3A, 3B, 5A, 5B

- a. Alternatives 3A and 3B eliminate the Beverly Branch which accounts for over 50% of the present ridership.
- b. Alternatives 3A and 3B increase the level of service to passengers originating west of Blue Island by decreasing travel time to the Chicago CBD.
- c. Alternatives 3A and 3B cause increased congestion on the Dan Ryan Expressway during peak periods due to diversions of existing Rock Island users.
- d. Alternatives 5A and 5B cause severe operational problems requiring 12 additional bi-levels and 2 additional locomotives due to the inability to efficiently recycle equipment on a single track. Furthermore, no hourly off-peak or reverse commuting service could be provided.
- e. Alternatives 5A and 5B provide a high level of service to present users by decreasing travel times to the Chicago CBD.

4. Poor: Alternatives 4A, 4B

- a. Alternatives 4A and 4B require lead-times of two to three years to implement due to problems in the procurement of buses, commuter rail cars and rapid transit cars.
- b. It is not guaranteed that the required vehicles would be approved for inclusion in the regional Transportation Improvement Program and/or that they would be funded by UMTA.
- c. There exists the probability of labor problems due to Section 13(c).
- d. The Illinois Central Gulf would have to build a third main line track from Homewood to Kensington.

5. Not Recommended: Alternatives 6, 7, 8

- a. Alternatives 6, 7 and 8 require lead-times of two to three years to implement due to problems in the procurement of vehicles.
- b. It is not guaranteed that the required vehicles would be approved for inclusion in the regional Transportation Improvement Program and/or that they would be funded by UMTA.
- c. The Illinois Central Gulf would have to build a third main line track from Homewood to Kensington.
- d. The Chicago Transit Authority would have to immediately implement Howard-Dan Ryan rapid transit service with inadequate yards and shops, causing operational inefficiencies.
- e. The Chicago Transit Authority would require \$52,000,000 in the long-run to provide support facilities needed for an operationally adequate Howard-Dan Ryan service.
- f. The Dan Ryan Expressway would experience increased over-congestion due to an additional 3,000 to 5,000 automobile users.
- g. The present Rock Island users would experience a significant decrease in transit service.
- h. Additional automobiles and buses in the Chicago CBD would cause increased congestion and associated air pollution problems.
- i. There exists the probability of labor problems due to Section 13(c).

IV. EVALUATION METHODOLOGY

- A. For each existing Rock Island Station a corresponding service area was defined. It includes the area within which passengers using the station begin their trip. These service areas were determined by analyses of the access modes used by passengers to reach the station, and of existing trip interchange data.
- B. For each service area, the numbers of trips in 1970 to the Chicago CBD by commuter rail, rapid transit and automobile were determined. These numbers were then adjusted to account for Rock Island ridership changes since 1970. This was done by calculating the ratio of 1970 commuter rail trips to the number of entering station riders in 1975; and multiplying trips using all modes by this factor.
- C. For each service area, the total travel time to the Chicago CBD via the present Rock Island service was calculated. This includes access time to the station, entering and waiting time at the station, line-haul time from the station to LaSalle Street Station, and egress time from LaSalle Street Station to the final CBD destination. Then for each alternative, the travel time associated with the specified routing (for detail, see Appendix I) was calculated.
- D. For each service area, the changes in travel time associated with each alternative were calculated. Using a computer model which represents actual travel patterns in the Northeastern Illinois Region, the effect of the travel time change on travel mode choice was determined.
- E. For each alternative, the changes in mode-choices for individual service areas were summed to determine the total change in travel patterns resulting from the alternative.
- F. These changes were expressed in terms of the number of present Rock Island users who would divert to the different modes, including the automobile, rapid transit and other commuter rail lines.

- G. The impacts of these diversions in terms of required additional capital facilities (buses, locomotives, rail cars, rapid transit cars and trackwork), operating costs, revenues, user costs, and additional automobile users were calculated.
- H. Annual costs to the Region were estimated by combining annual capital costs, additional annual operating deficits and additional annual user costs. Capital costs were annualized by dividing the total cost of each facility type (equipment, trackwork) by its life. Annual regional cost represents the incremental cost to both passengers and operators of implementing an alternative as compared to the do-nothing alternative of retaining present Rock Island service.
- I. Annual costs to the RTA represent the operating deficit and annual capital cost of implementing an alternative. Capital costs were annualized in the manner noted above.
- J. The above estimates were based on 1975 ridership volumes and population densities and do not reflect expected future growth in the Rock Island corridor. If future growth were accounted for, those alternatives which improve service would provide greater user savings and would attract greater numbers of auto users while those options which would decrease service, would result in greater user costs and more automobile drivers.

V. Evaluation Summary Table

(Footnotes on following pages.)

	TOTAL CAPITAL COST	ANNUAL CAPITAL COST ²	ANNUAL OPER. DEFICIT ³	ADDITIONAL ANNUAL OPER. DEFICIT ⁴	ADDITIONAL ANNUAL USER COST ⁵	DAILY INCREASED AUTO USERS ⁶	OPERATING FEASIBILITY ⁷	SOCIAL BENEFIT	ADDITIONAL ANNUAL COST TO THE REGION ⁸	ANNUAL COST TO RTA
1A: Joliet-Union Sta. Total Rehab	\$ 61,000,000 10	\$2,100,000 10	\$5,800,000	\$1,100,000	-\$2,800,000	-1,130	Good A B	Good	\$ 400,000	\$7,900,000
1B: Joliet-LaSalle St. Sta. Total Rehab	71,200,000 10	2,600,000 10	3,800,000	-900,000	-4,600,000	-1,890	Acceptable	Good	-2,900,000	6,400,000
2A: Joliet-Union Sta. via Beverly Rehab	59,800,000 10	2,100,000 10	5,600,000	900,000	-1,500,000	-700	Acceptable A B	Good	1,500,000	7,700,000
2B: Joliet-LaSalle St. Sta. via Beverly Rehab	72,000,000 10	2,500,000 10	3,500,000	-1,200,000	-3,300,000	-1,460	Acceptable	Good	-2,000,000	6,000,000
3A: Joliet-Union Sta. Rehab Abandon Beverly	60,500,000 10	2,100,000 10	4,200,000	-500,000	-600,000	11,160	Fair A B C	Fair	1,000,000	6,300,000
3B: Joliet-LaSalle St. Sta. Rehab Abandon Beverly	72,700,000 10	2,600,000 10	2,900,000	-1,800,000	-2,100,000	1640	Fair C	Acceptable	-1,300,000	5,500,000
4A: Blue Island Union Sta. via Beverly Branch Rehab	61,300,000 11	2,100,000 11	5,800,000	1,100,000	1600,000	-40	Poor A B C	Fair	3,800,000	7,900,000
4B: Blue Island-LaSalle St. Sta via Beverly Branch Rehab	71,400,000 11	2,600,000 11	4,500,000	-200,000	-800,000	-680	Poor C	Acceptable	1,600,000	7,100,000
5A: Joliet-Union Sta. Single Main Line Track, Double Rev. Track Rehab	68,900,000 10	2,300,000 10	7,400,000	2,700,000	-2,800,000	-1,130	Unacceptable A B D	Fair	2,200,000	9,700,000
5B: Joliet-LaSalle St. Sta. Single Main Line Track, Double Rev. Track Rehab	81,200,000 10	2,800,000 10	5,800,000	1,100,000	-4,600,000	-1,890	Unacceptable D	Fair	-700,000	8,600,000
6: Abandon Rock Island, Feeder Bus to Other Corner Hall and Rapid Transit Lines	119,600,000	4,700,000	2,100,000	-2,600,000	14,400,000	15,600	Unacceptable C E G	Poor	6,500,000	6,600,000
7: Abandon Rock Island, Express Bus to Chicago	63,200,000	2,500,000	2,500,000	-2,200,000	15,900,000	13,800	Unacceptable C	Poor	6,200,000	5,000,000
8: Abandon Rock Island, Feeder Bus to Dan Ryan Rapid Transit Lines	123,800,000	4,600,000	1,200,000	-3,500,000	14,300,000	17,700	Unacceptable C E F G	Poor	5,400,000	5,800,000

FOOTNOTES TO TABLE

- ¹This is the capital cost to the Year 2000 of implementing an alternative. For those alternatives which require additional Illinois Central Gulf electric or diesel equipment, additional rapid transit cars, and additional buses, the costs of the necessary support facilities (yards and shops) have not been included.
- ²This represents the annual cost of all capital facilities calculated for each individual facility. The lives of facilities are as follows: locomotives 25 years, rail cars 35 years, electric commuter rail cars 30 years, rapid transit cars 30 years, buses 12 years, trackwork 25 years, and parking spaces 25 years.
- ³This is the annual deficit of the alternative calculated using 1976 operating costs and fare structures.
- ⁴This is the difference between the estimated deficit of the alternative in 1976 and the \$4,700,000 deficit of the existing Rock Island service in FY 1976.
- ⁵This represents the dollar costs/savings of increased/decreased travel times for present Rock Island passengers. In addition, the dollar savings of decreased travel time for passengers who would divert to an alternative which improves present Rock Island service are included. Travel time is valued at \$2.40 per hour.
- ⁶The increased auto usage represents the number of Rock Island passengers who would switch to automobiles and would travel primarily via the Dan Ryan Expressway. For alternatives 7 and 8, this also includes Rock Island patrons who would drive their cars to nearby Illinois Central Gulf commuter stations. As a point of reference, the minimum construction cost of a new lane of expressway is \$10 million per mile, and a one mile lane of expressway will accommodate approximately 1700 cars.
- ⁷This is coded to the following operating factors. Factors A and B are of a positive nature, while C, D, E, F, G are negative.
 - A. Opportunity for yard, shop and passenger consolidation
 - B. Capability for future operational coordination with other railroads
 - C. Long lead times necessary to procure new vehicles

- D. Single track limits on equipment recycling
- E. Lack of short-term yard and shop facilities for Howard/Dan Ryan service.
- F. Congestion at 95th/Dan Ryan Station
- G. Impossible to run additional peak period trains over the present Lake-Dan Ryan routing.

⁸This represents the marginal cost to the region of implementing the different alternatives as compared to operating the present Rock Island service. It includes annualized capital cost, additional operating deficit, and additional user cost.

⁹This represents the annual cost to RTA of implementing the different alternatives. It includes annualized capital cost and annual operating deficit.

¹⁰UMTA has granted the RTA \$41,800,000 for rail locomotives and cars.

¹¹Includes only \$28,000,000 of the total \$41,800,000 that UMTA has granted the RTA for Rock Island equipment as only a portion of the total equipment ordered would be required.

VI. ALTERNATIVE EVALUATIONS

A. ALTERNATIVE 1A: JOLIET-UNION STATION, TOTAL REHAB

1. Capital Cost

- a. \$41,800,000 for Rock Island equipment, 50 bi-levels, and 21 locomotives. The additional ridership attracted by the rebuilt railroad could be accommodated by recycling this equipment.
- b. \$19,200,000 for Rock Island trackwork and miscellaneous maintenance in 1976.

2. Operating Cost

- a. \$11,200,000 for Rock Island trains
- b. \$5,400,000 revenues, assuming present Rock Island fare structure
- c. \$5,800,000 annual deficit

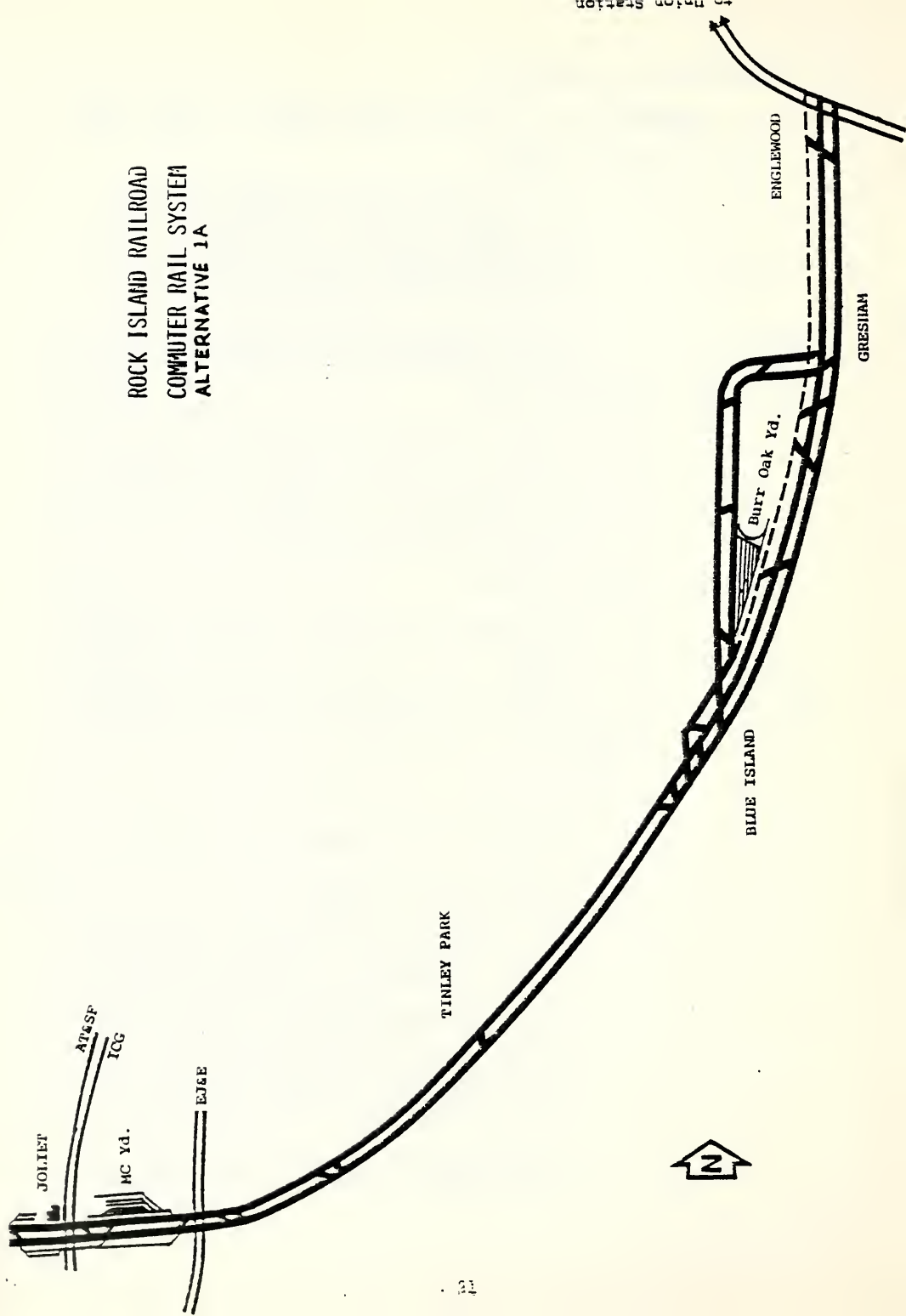
3. Social Benefit

- a. Decreased auto usage, increased transit usage
- b. Increased service for present riders

4. Operational advantages of going into Union Station

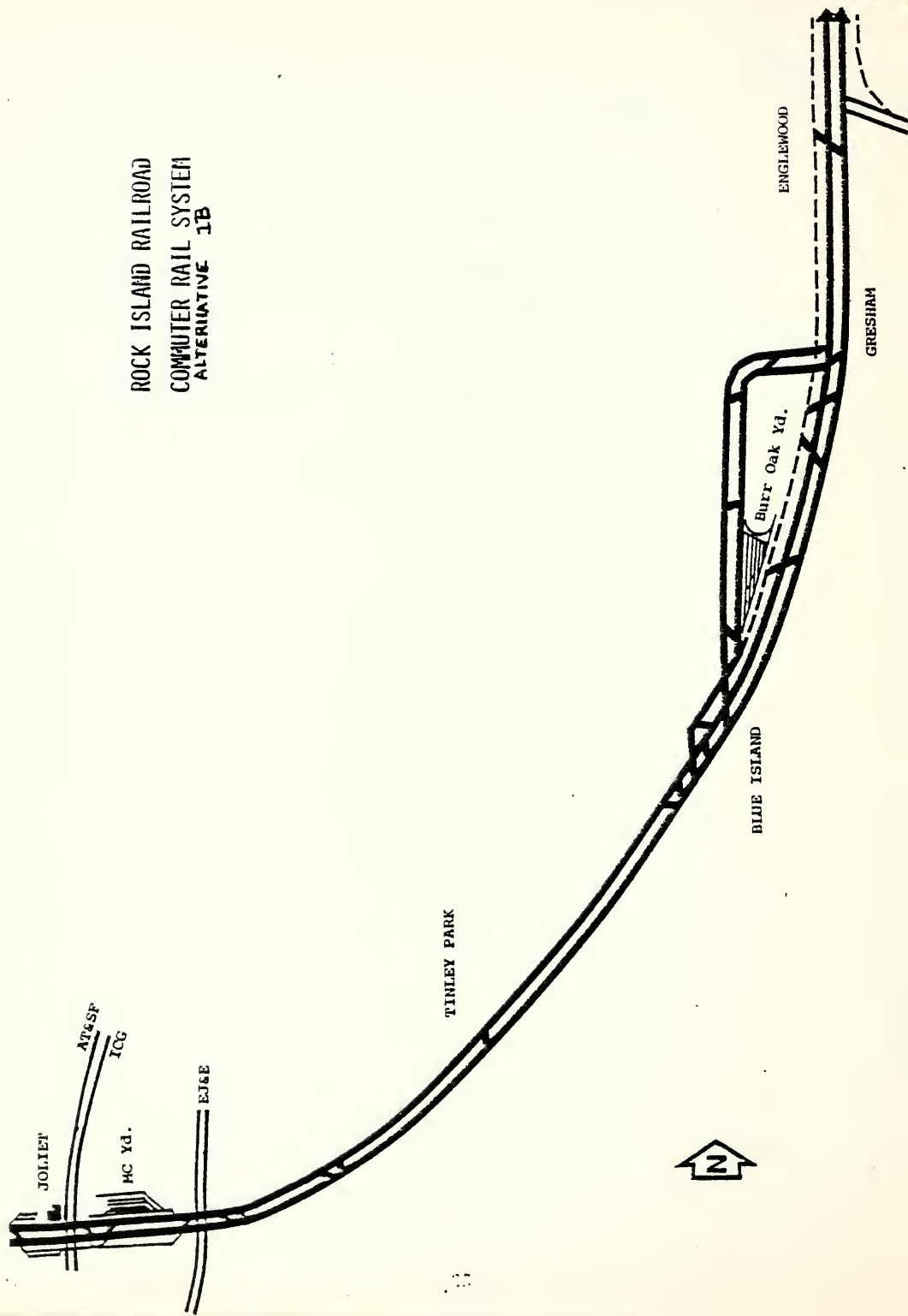
- a. Opportunity for yard consolidation.
- b. Opportunity for shop consolidation.
- c. Capability for future operational coordination with other railroads.
- d. Increased ease of passenger transfers to other commuter railroads and Amtrak.
- e. Higher operating costs resulting from increases in wheelage and trackage are offset by deficit decreases for other railroads entering Union Station, and in the long-run by public ownership of Union Station.
- f. Capital improvements to Union Station also benefit other Union Station users.

ROCK ISLAND RAILROAD COMPUTER RAIL SYSTEM ALTERNATIVE 1A



5. Economic benefits of leaving LaSalle Street Station.
 - a. If the Rock Island were moved to Union Station, a number of Rock Island facilities north of 63rd Street could be developed for other uses.
 - b. The disposal of the facilities is subject to negotiation between the RTA and Rock Island. The facilities to be disposed include:
 - a. LaSalle Street Station Building
 - b. LaSalle Street Station Trackage
 - c. Commuter Yard
 - d. Trailer Facility Yard
 - e. 47th Street Shops
 - f. Trackage - Land
 - g. Trackage - Salvage

ROCK ISLAND RAILROAD
COMPUTER RAIL SYSTEM
ALTERNATIVE 1B



B. ALTERNATIVE 1B: JOLIET-LA SALLE STREET STATION,
TOTAL REHAB

1. Capital Cost

- a. \$41,800,000 for Rock Island equipment, 50 bi-levels and 21 locomotives. The additional ridership attracted by the rebuilt railroad could be accommodated by recycling this equipment.
- b. \$31,400,000 for Rock Island trackwork and miscellaneous maintenance in 1976.

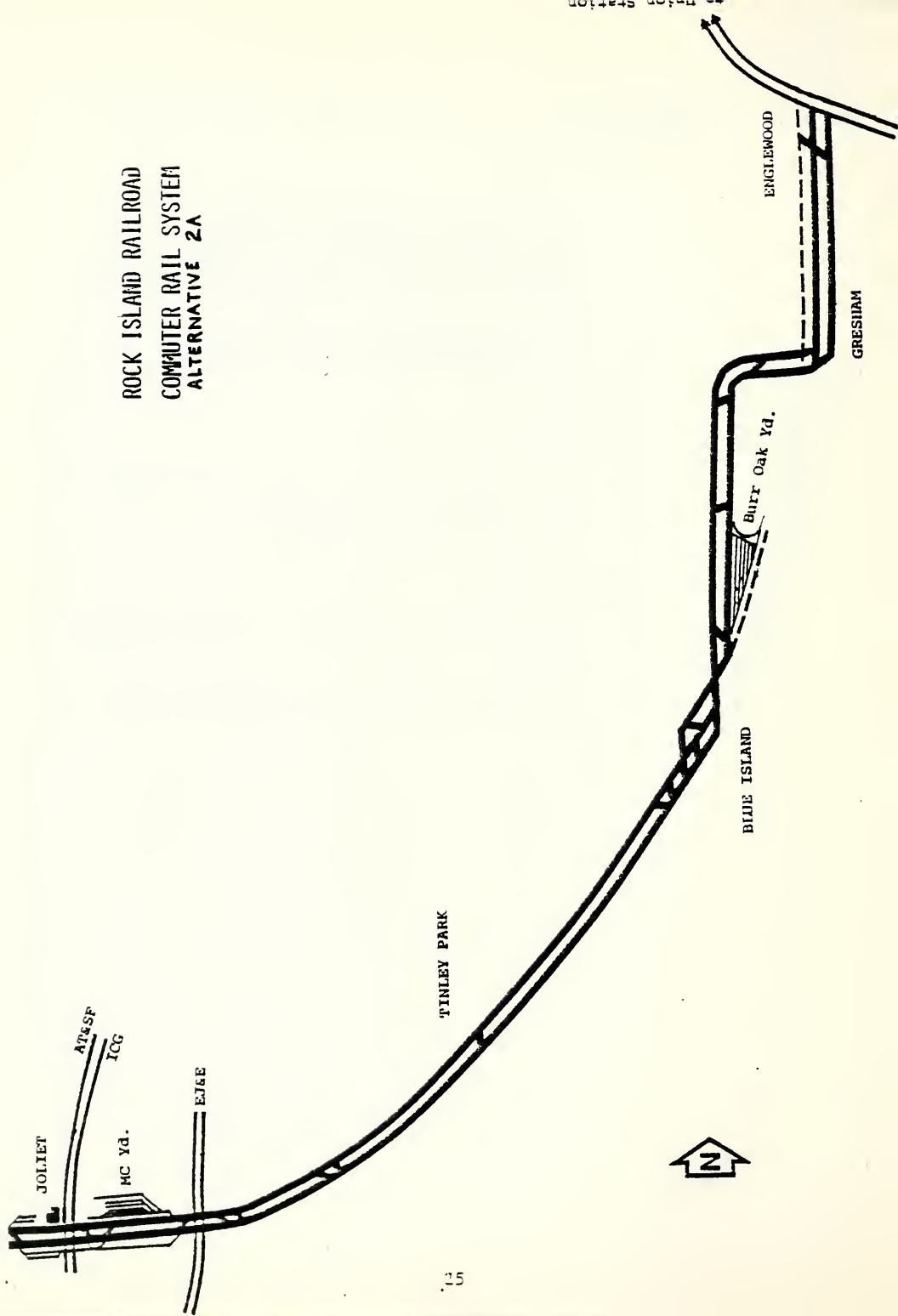
2. Operating Cost

- a. \$9,500,000 for Rock Island trains
- b. \$5,700,000 revenues, assuming present Rock Island fare structure
- c. \$3,800,000 annual deficit

3. Social Benefit

- a. Decreased auto usage, increased transit usage
- b. Increased service for present riders.

ROCK ISLAND RAILROAD COMPUTER RAIL SYSTEM ALTERNATIVE 2A



C. ALTERNATIVE 2A: JOLIET-UNION STATION VIA BEVERLY,
REHAB

1. Capital Cost

- a. \$41,800,000 for Rock Island equipment, 50 bi-levels and 21 locomotives. The additional ridership attracted by the rebuilt railroad could be accommodated by recycling this equipment.
- b. \$18,000,000 for Rock Island trackwork and miscellaneous maintenance in 1976.

2. Operating Cost

- a. \$10,800,000 for Rock Island trains
- b. \$5,200,000 revenues, assuming present Rock Island fare structure
- c. \$5,600,000 annual deficit

3. Social Benefit

- a. Decreased auto usage, increased transit usage
- b. Increased service for present riders

4. Operational advantages going into Union Station

- a. Opportunity for yard consolidation.
- b. Opportunity for shop consolidation.
- c. Capability for future operational coordination with other railroads.
- d. Increased ease of passenger transfer to other commuter railroads and Amtrak.
- e. Higher operating costs resulting from increases in wheelage and trackage are offset by deficit decreases for other railroads entering Union Station and in the long-run by public ownership of Union Station.
- f. Capital improvements to Union Station also benefit other Union Station users.

5. Economic benefits of leaving LaSalle Street Station.
 - a. If the Rock Island were moved to Union Station, a number of Rock Island facilities north of 63rd Street could be developed for other uses.
 - b. The disposal of the facilities is subject to negotiation between the RTA and Rock Island. The facilities to be disposed of include:
 - a. LaSalle Street Station Building
 - b. LaSalle Street Station Trackage
 - c. Commuter Yard
 - d. Trailer Facility Yard
 - e. 47th Street Shops
 - f. Trackage-Land
 - g. Trackage - Salvage

D. ALTERNATIVE 2B: JOLIET-LA SALLE STREET STATION
VIA BEVERLY, REHAB

1. Capital Cost

- a. \$41,800,000 for Rock Island equipment, 50 bi-levels and 21 locomotives. The additional ridership attracted by the rebuilt railroad could be accommodated by recycling this equipment.
- b. \$30,200,000 for Rock Island trackwork and miscellaneous maintenance in 1976

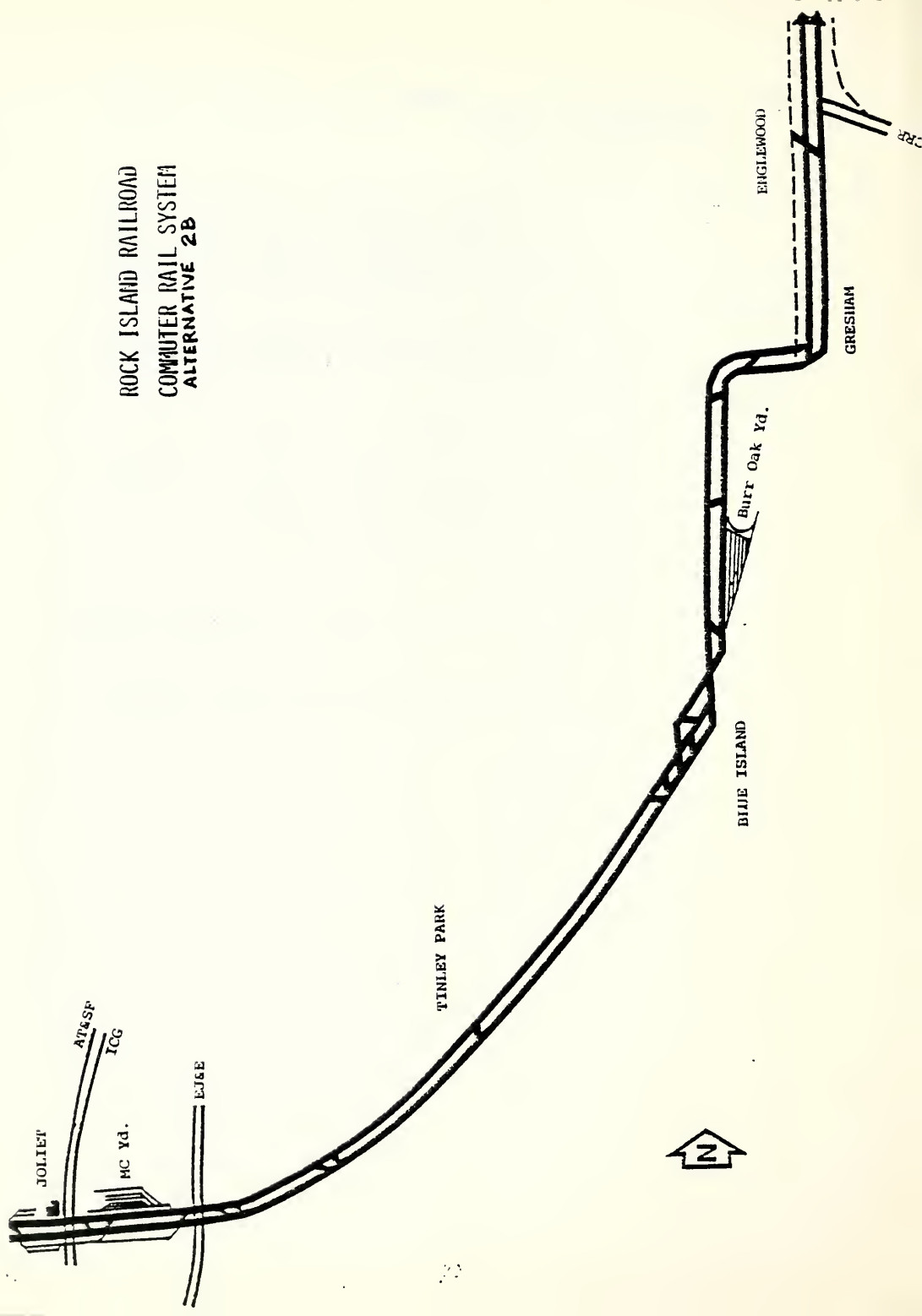
2. Operating Cost

- a. \$9,200,000 for Rock Island trains
- b. \$5,700,000 revenues, assuming present Rock Island fare structure
- c. \$3,500,000 annual deficit

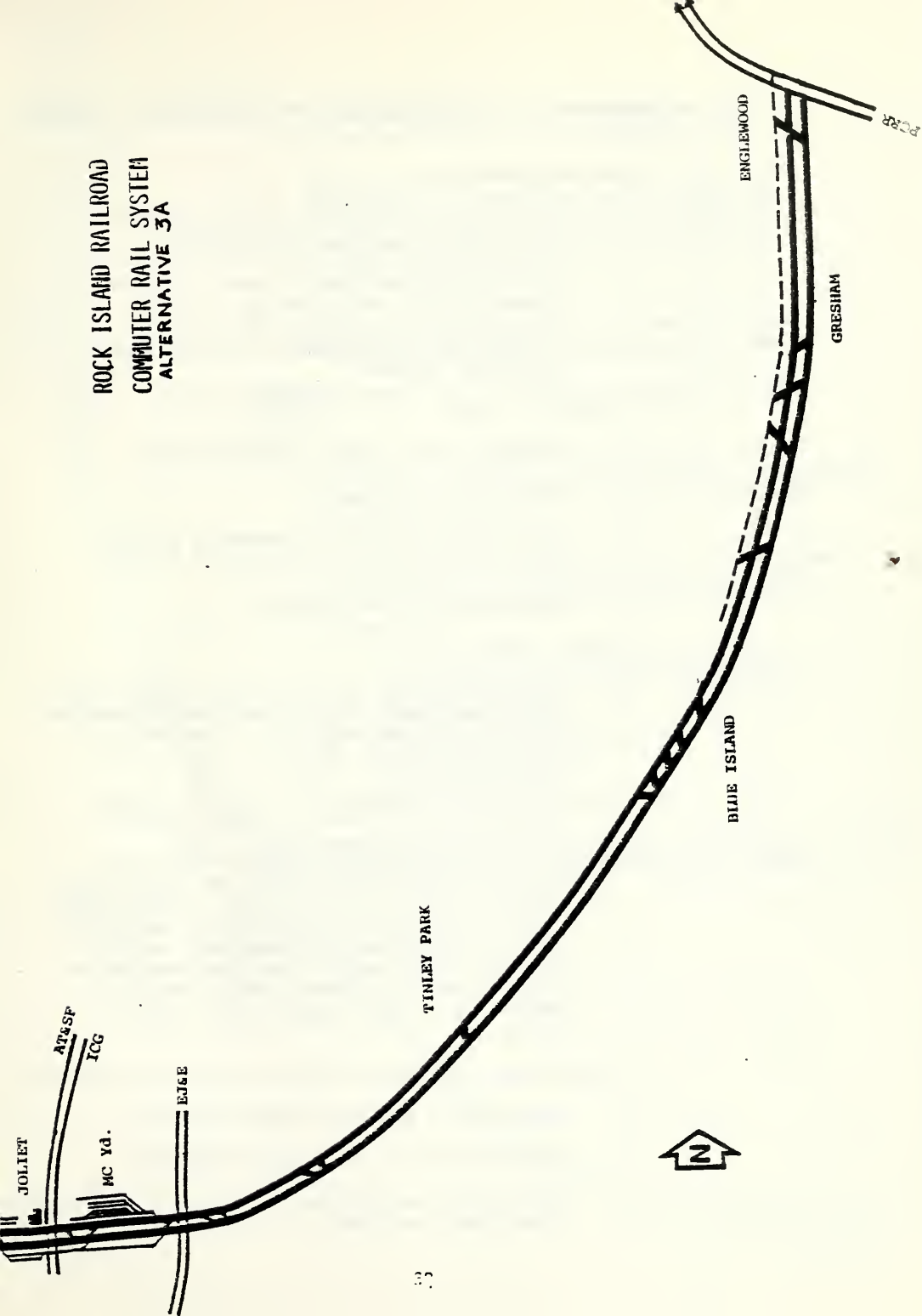
3. Social Benefit

- a. Decreased auto usage, increased transit usage
- b. Increased service for present riders.

ROCK ISLAND RAILROAD
COMPUTER RAIL SYSTEM
ALTERNATIVE 2B



ROCK ISLAND RAILROAD
COMPUTER RAIL SYSTEM
ALTERNATIVE 3A



E. ALTERNATIVE 3A: JOLIET-UNION STATION REHAB, ABANDON
BEVERLY

1. Capital Cost

- a. \$41,800,000 for Rock Island Equipment,
50 bi-levels and 21 locomotives
- b. \$16,700,000 for Rock Island track and
miscellaneous maintenance in 1976.
- c. \$2,000,000 for 13 buses in 1976, and
13 buses in 1988

2. Operating Cost

- a. \$8,700,000 for Rock Island trains
- b. \$200,000 for buses
- c. \$4,700,000 revenues, assuming present
Rock Island fare structure
- d. \$4,200,000 annual deficit

3. Social Benefit

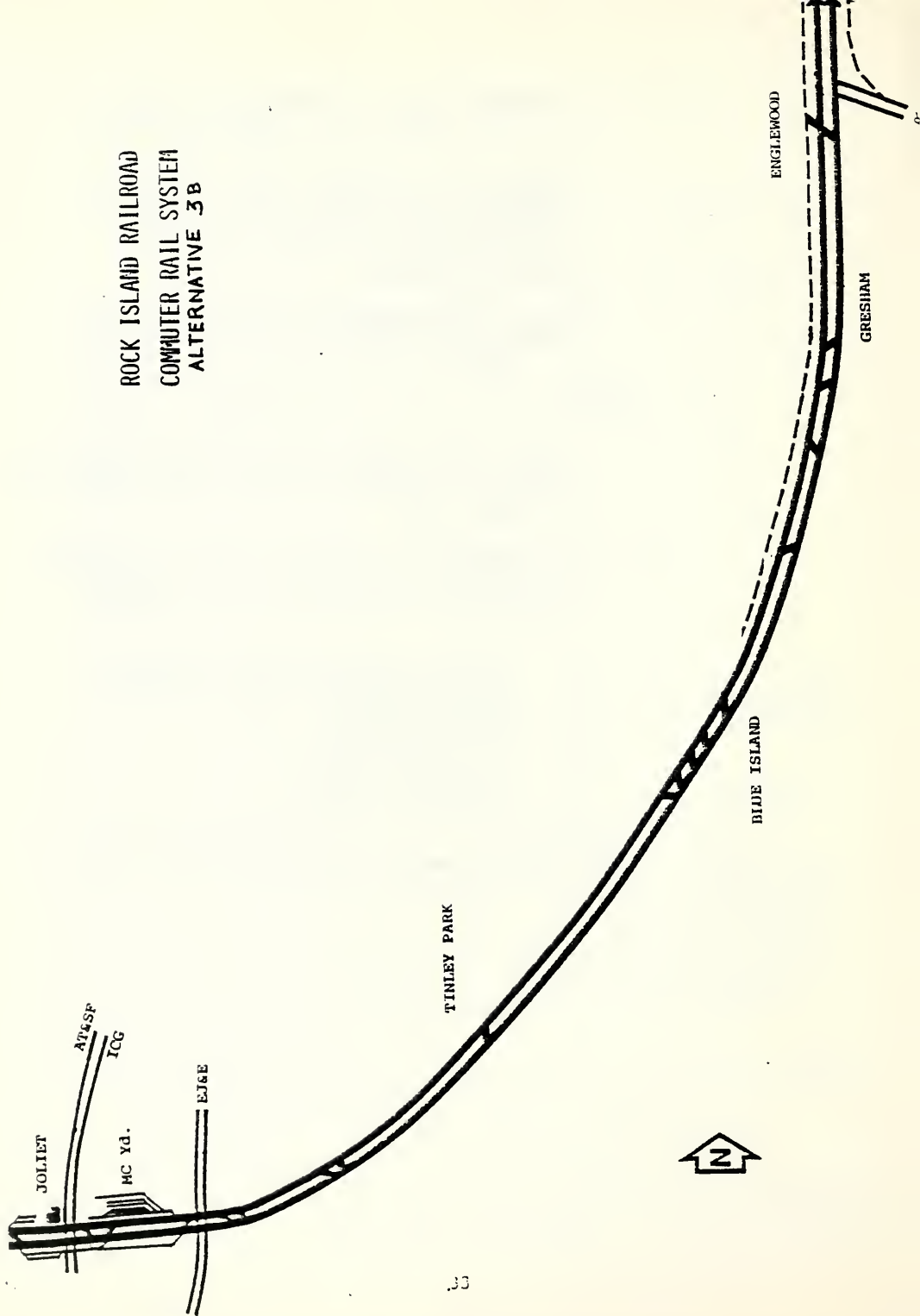
- a. Increased auto usage, with an additional
1200 cars using the already overcongested
Dan Ryan Expressway during the morning
and evening rush hours.
- b. Slightly increased service for present
riders boarding west of Blue Island.
- c. If this alternative were coordinated
with the extension of the Dan Ryan rapid
transit line to Blue Island, recommended
in the 1995 plan, high-quality service
would be provided to commuters outside
of the rapid transit service area while
present Beverly Branch users would be
served by a high speed rapid transit
line.

4. Operational advantages going into Union Station

- a. Opportunity for yard consolidation.
- b. Opportunity for shop consolidation.
- c. Capability for future operational coordination
with other railroads.

- d. Increased ease of passenger transfer to other commuter railroads and Amtrak.
 - e. Higher operating costs resulting from increases in wheelage and trackage are offset by deficit decreases for other railroads entering Union Station and in the long-run by public ownership of Union Station.
 - f. Capital improvements to Union Station also benefit other Union Station users.
5. Economic benefits of leaving LaSalle Street Station.
- a. If the Rock Island were moved to Union Station, a number of Rock Island facilities north of 63rd Street could be developed for other uses.
 - b. The disposal of the facilities is subject to negotiation between the RTA and Rock Island. The facilities to be disposed of include:
 - a. LaSalle Street Station Building
 - b. LaSalle Street Station Trackage
 - c. Commuter Yard
 - d. Trailer Facility Yard
 - e. 47th Street Shops
 - f. Trackage-Land
 - g. Trackage - Salvage
6. Implementation will be delayed due to the two years necessary for procuring new buses.

ROCK ISLAND RAILROAD COMPUTER RAIL SYSTEM ALTERNATIVE 3B



F. ALTERNATIVE 3B: JOLIET-LA SALLE STREET STATION
REHAB, ABANDON BEVERLY

1. Capital Cost

- a. \$41,800,000 for Rock Island equipment,
50 bi-levels and 21 locomotives
- b. \$28,900,000 for Rock Island trackwork
and miscellaneous maintenance in 1976
- c. \$2,000,000 for 13 buses in 1976 and
13 buses in 1988

2. Operating Cost

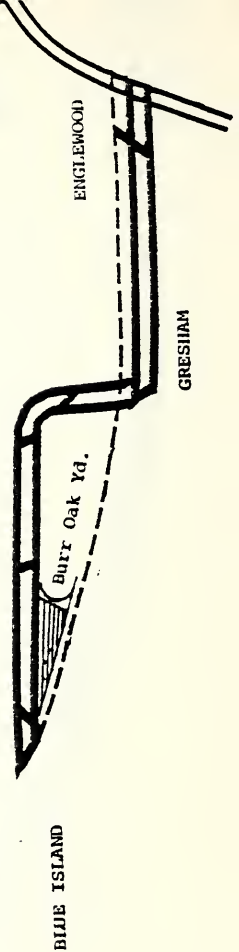
- a. \$7,600,000 for Rock Island trains
- b. \$200,000 for buses
- c. \$4,900,000 revenues, assuming present
Rock Island fare structure
- d. \$2,900,000 annual deficit

3. Social Benefit

- a. Increased auto usage, with an additional
640 cars using the Dan Ryan Expressway
- b. Increased service for present riders
boarding west of Blue Island
- c. If this alternative were coordinated
with the extension of the Dan Ryan
rapid transit line to Blue Island, recommended
in the 1995 plan, high-quality service would
be provided to commuters outside of the rapid
transit service area while present Beverly
branch users would be served by a high
speed rapid transit line.

- 4. Implementation will be delayed due to the
two years necessary for procuring new buses.

ROCK ISLAND RAILROAD
COMPUTER RAIL SYSTEM
ALTERNATIVE 4A



G. ALTERNATIVE 4A: BLUE ISLAND-UNION STATION VIA
BEVERLY BRANCH REHAB

1. Capital Cost

- a. \$42,200,000 for all rail equipment in 1976
 - 1) \$27,700,000 for Rock Island equipment, 33 bi-levels and 14 locomotives
 - 2) \$4,700,000 for Illinois Central Gulf Diesel equipment, 6 bi-levels and 2 locomotives
 - 3) \$9,800,000 for Illinois Central Gulf electric equipment, 13 cars
- b. \$9,800,000 for trackwork and miscellaneous maintenance in 1976
 - 1) \$9,300,000 for Rock Island in 1976
 - 2) \$500,000 for Illinois Central Gulf Diesel in 1976
- c. \$9,300,000 for 62 buses in 1976 and 62 buses in 1988

2. Operating Cost

- a. \$8,800,000 for trains
 - 1) \$7,400,000 for Rock Island trains
 - 2) \$600,000 for Illinois Central Gulf diesel trains
 - 3) \$800,000 for Illinois Central Gulf electric trains
 - b. \$1,900,000 for buses
 - c. \$4,900,000 revenues, assuming present Rock Island and Illinois Central Gulf fares
 - d. \$5,800,000 annual deficit
3. Slightly decreased service for existing users will occur.

4. Operational advantages going into Union Station
 - a. Opportunity for yard consolidation.
 - b. Opportunity for shop consolidation.
 - c. Capability for future operational coordination with other railroads.
 - d. Increased ease of passenger transfer to other commuter railroads and Amtrak.
 - e. Higher operating costs resulting from increases in wheelage and trackage are offset by deficit decreases for other railroads entering Union Station and in the long-run by public ownership of Union Station.
 - f. Capital improvements to Union Station also benefit other Union Station users.
5. Economic benefits of leaving LaSalle Street Station.
 - a. If the Rock Island were moved to Union Station, a number of Rock Island facilities north of 63rd Street could be developed for other uses.
 - b. The disposal of the facilities is subject to negotiation between the RTA and Rock Island. The facilities to be disposed of include:
 - a. LaSalle Street Station Building
 - b. LaSalle Street Station Trackage
 - c. Commuter Yard
 - d. Trailer Facility Yard
 - e. 47th Street Shops
 - f. Trackage-Land
 - g. Trackage - Salvage
6. Implementation will be delayed due to the two to three years necessary to procure new rail cars and buses.
7. Section 13(c) problems will be encountered.

H. ALTERNATIVE 4B: BLUE ISLAND-LA SALLE STREET STATION
VIA BEVERLY BRANCH REHAB

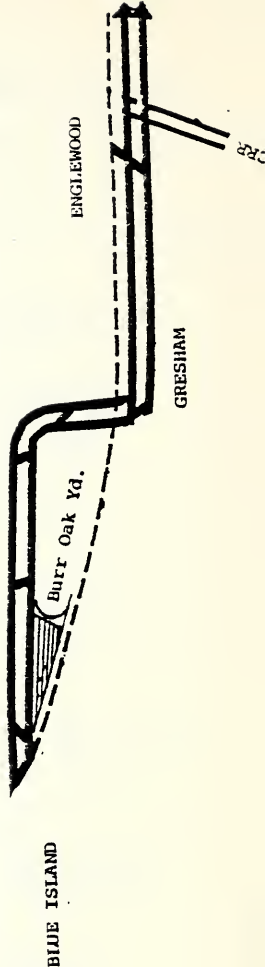
1. Capital Cost

- a. \$42,200,000 for all rail equipment in 1976
 - 1. \$27,700,000 for Rock Island equipment, 33 bi-levels and 14 locomotives
 - 2. \$4,700,000 for Illinois Central Gulf diesel equipment, 6 bi-levels and 2 locomotives
 - 3. \$9,800,000 for 13 Illinois Central Gulf electric cars.
- b. \$21,900,000 for trackwork and miscellaneous maintenance in 1976
 - 1. \$21,400,000 for Rock Island in 1976
 - 2. \$500,000 for Illinois Central Gulf in 1976
- c. \$9,300,000 for 62 buses in 1976 and 62 buses in 1988

2. Operating Cost

- a. \$7,700,000 for trains
 - 1. \$6,300,000 for Rock Island trains
 - 2. \$600,000 for Illinois Central Gulf diesel trains .
 - 3. \$800,000 for Illinois Central Gulf electric trains
 - b. \$1,900,000 for buses
 - c. \$5,100,000 revenues, assuming present Rock Island and Illinois Central Gulf fares
 - d. \$4,500,000 annual deficit
- 3. Social benefits include slightly increased service for existing users of the Rock Island.
 - 4. Implementation will be delayed due to the two to three years necessary to procure new rail cars and buses.
 - 5. Section 13 (c) problems will be encountered.

ROCK ISLAND RAILROAD
 COMMUTER RAIL SYSTEM
 ALTERNATIVE 4B



I. ALTERNATIVE 5A: JOLIET-UNION STATION SINGLE
MAIN-LINE TRACK, DOUBLE BEVERLY TRACK, REHAB

1. Capital Cost

- a) \$50,1000,000 for Rock Island equipment, 62 bi-levels and 23 locomotives. The ridership could not be accommodated by recycling the original equipment ordered. An additional 12 bi-levels and 2 locomotives would be required.
- b) \$18,800,000 for Rock Island trackwork and miscellaneous maintenance in 1976.

2. Operating Costs

- a) \$12,800,000 for Rock Island trains
- b) \$5,400,000 revenues, assuming present Rock Island fare structure
- c) \$7,400,000 annual deficit

3. Social Benefit

- a) Decreased auto usage, increased transit usage
- b) Increased service for present users

4. Operational advantages of going into Union Station

- a) Opportunity for yard consolidation
- b) Opportunity for shop consolidation
- c) Capability for future operational co-ordination with other railroads
- d) Increased ease of passenger transfers to other commuter railroads and Amtrack.
- e) Higher operating costs resulting from increases in wheelage and trackage are offset by deficit decreases for other railroads entering Union Station, and in the long-run by public ownership of Union Station
- f) Capital improvements to Union Station also benefit other Union Station users.

5. Economic benefits of leaving LaSalle Street Station
 - a) If the Rock Island were moved to Union Station, a number of Rock Island facilities north of 63rd Street could be developed for other uses
 - b) The disposal of the facilities is subject to negotiation between the RTA and Rock Island. The facilities to be disposed of include:
 - a) LaSalle Street Station Building
 - b) LaSalle Street Station trackage
 - c) Commuter yard
 - d) Trailer Facility Yard
 - e) 47th Street shops
 - f) Trackage - land
 - g) Trackage - salvage
6. Operating feasibility is poor due to the single track limitation on equipment recycling. It would be impossible to provide either hourly mid-day service or reverse commuter service.

J. ALTERNATIVE 5B: JOLIET-LA SALLE STREET STATION
SINGLE MAIN LINE TRACK, DOUBLE BEVERLY TRACK
REHAB

1. Capital Cost

- a) \$50,100,000 for Rock Island equipment, 62 bi-levels and 23 locomotives. The ridership could not be accommodated by recycling the original equipment ordered. An additional 12 bi-levels and 2 locomotives would be required.
- b) \$31,100,000 for Rock Island trackwork and miscellaneous maintenance in 1976

2. Operating Cost

- a) \$11,500,000 for Rock Island trains
- b) \$5,700,000 revenues, assuming present Rock Island fare structure
- c) \$5,800,000 annual deficit

3. Social Benefit

- a) Decreased auto usage, increased transit usage
- b) Increased service for present users

4. Operating feasibility is poor due to the single track limitation on equipment recycling. It would be impossible to provide either hourly mid-day service or reverse commuter service.

K. ALTERNATIVE 6: ABANDON ROCK ISLAND, FEEDER BUS TO
OTHER COMMUTER RAIL AND RAPID TRANSIT LINES

1. Capital Cost

- a) \$28,100,000 for all rail equipment in 1976
 - 1) \$4,700,000 for Illinois Central Gulf diesel equipment, 6 bi-levels and 2 locomotives
 - 2) \$23,400,000 for 31 Illinois Central Gulf electric cars
- b) \$69,000,000 for trackwork and miscellaneous maintenance in 1976
 - 1) \$17,000,000 for third Illinois Central Gulf electric track from Homewood to Kensington
 - 2) \$52,000,000 for Howard-Dan Ryan rapid transit connection
- c) \$10,800,000 for 24 CTA rapid transit cars in 1976
- d) \$11,700,000 for 78 buses in 1976 and 78 buses in 1988

2. Operating Cost

- a) \$2,300,000 for trains
 - 1) \$600,000 for Illinois Central Gulf diesel trains
 - 2) \$1,700,000 for Illinois Central Gulf electric trains
- b) \$700,000 for rapid transit cars
- c) \$2,200,000 for buses
- d) \$3,100,000 revenues, assuming present Rock Island and Illinois Central Gulf fare structures
- e) \$2,100,000 annual deficit

3. Social Benefit

- a) Greatly increased auto usage, with an additional 5600 cars, equivalent to 4 to 5 lanes of traffic, using the Dan Ryan Expressway during the morning and evening rushes.
- b) Increased congestion in the Chicago CBD with possible capacity problems at Loop parking garages
- c) Substantially decreased service for present users

4. Operational Feasibility

- a) The immediate implementation of the Howard-Dan Ryan connection would present an operational problem, as it would not allow for the construction of adequate yard and shop facilities and would require much equipment dead-heading (operating empty trains). The cost of this dead-heading has not been computed.
- b) The Chicago Transit Authority would require \$52,000,000 in the long-run to provide the support facilities needed for an operationally adequate Howard-Dan Ryan Service.
- c) A lead time of two to three years is necessary to obtain the required buses, rail cars and rapid transit cars.

5. Section 13(c) problems will be encountered.

L. ALTERNATIVE 7: ABANDON ROCK ISLAND, EXPRESS
BUS TO CHICAGO

1. Capital Cost

- a) \$19,800,000 for all rail equipment in 1976
 - 1) \$4,700,000 for Illinois Central Gulf diesel equipment, 6 bi-levels and 2 locomotives
 - 2) \$15,100,000 for 20 Illinois Central Gulf electric cars
- b) \$17,000,000 for third Illinois Central Gulf electric track from Homewood to Kensington in 1976
- c) \$20,300,000 for 135 buses in 1976 and 135 buses in 1988
- d) \$6,100,000 for 3061 parking spaces at outlying stations

2. Operating Cost

- a) \$1,900,000 for trains
 - 1) \$600,000 for Illinois Central Gulf diesel trains
 - 2) \$1,300,000 for Illinois Central Gulf electric trains
- b) \$5,400,000 for buses
- c) \$4,800,000 revenues, assuming present Rock Island and Illinois Central Gulf fare structures
- d) \$2,500,000 annual deficit

3. Social Benefits

- a) Increased auto usage, with an additional 800 cars and 135 buses using the Dan Ryan Expressway during the morning and evening rushes.

- b) Greatly increased congestion in the Chicago CBD with both additional auto and bus traffic.
 - c) Substantially decreased service for present users.
4. Implementation will be delayed due to the two to three years lead time necessary to procure new vehicles
 5. Section 13(c) problems will be encountered.

M. ALTERNATIVE 8: ABANDON ROCK ISLAND, FEEDER BUS
 TO DAN RYAN RAPID TRANSIT LINE

1. Capital Cost

- a) \$21,300,000 for rail equipment in 1976
 - 1) \$4,700,000 for Illinois Central Gulf diesel equipment, 6 bi-levels and 2 locomotives
 - 2) \$16,600,000 for 22 Illinois Central Gulf electric cars
- b) \$69,000,000 for trackwork and miscellaneous maintenance in 1976
 - 1) \$17,000,000 for third Illinois Central Gulf electric track from Homewood to Kensington
 - 2) \$52,000,000 for Howard-Dan Ryan rapid transit connection
- c) \$11,900,000 for 79 buses in 1976 and 79 buses in 1988
- d) \$14,400,000 for 32 rapid transit cars in 1976
- e) \$7,200,000 for parking spaces at outlying stations in 1976

2. Operating Cost

- a) \$1,900,000 for trains
 - 1) \$600,000 for Illinois Central Gulf diesel trains
 - 2) \$1,300,000 for Illinois Central Gulf electric trains
- b) \$700,000 for rapid transit cars
- c) \$2,400,000 for buses
- d) \$3,800,000 revenues, assuming present Rock Island and Illinois Central Gulf fare structures
- e) \$1,200,000 annual deficit

3. Social Benefits

- a) Greatly increased auto usage, with additional 5800 cars using the Dan Ryan Expressway during the morning and evening rushes. This is equivalent to 4 to 5 additional lanes of traffic.
- b) Increased congestion in the Chicago CBD with possible capacity problems at Loop parking garages
- c) Decreased service for present users
- d) Congestion of both vehicles and people at Dan Ryan/95th Street Station

4. Operational Feasibility

- a) Long lead time is necessary to obtain the required vehicles
- b) Immediate implementation of the Howard-Dan Ryan Connection would present an operational problem, as it would not allow for the construction of adequate yard and shop facilities and would require much equipment dead-heading (operating empty trains). The cost of this dead heading has not been computed.
- c) The Chicago Transit Authority would require \$52,000,000 in the long-run to provide the support facilities needed for an operationally adequate Howard-Dan Ryan service.

5. Section 13(c) problems will be encountered

VII. Discussion of Equipment Available for Rehabilitation and Use on Suburban Passenger Services

- A. Amtrak has 12 former Chicago and North Western intercity bi-level cars for sale or lease with options to buy.

1.	Amtrak 9600	ex C&NW	600	48 Coach seats + snack/lounge
	9601		903	as above
	9610 - 9619		790-799	96 seat coach

2. All of the above cars were built by Pullman-Standard in 1958 of LAHT steel. For commuter service, it would be possible to place the cars in service, as is, with 96 seats to the car, and approximately 86 seats in the lounge cars, some of which would be table seats.

3. The cars require modifications of train lines and wiring at the cost of \$5,000 per car.

4. Amtrak's asking price is \$100,000 per car or lease for minimum of 2 years @ \$50.00 per day, per car with options to buy at the end of 2 years.

- B. Milwaukee Railroad has seven single-level suburban coaches available for the Authority's use. The seven cars must be refurbished before being placed into service.

1. Work to be done to Milwaukee std cars 4570, 4571, 4572, 4573, 4576, 4574, and 4575 is:

Clean air brakes
Overhaul trucks
Paint exterior and interior, includes sand blasting
Replace windows (34 per unit)
Repair body rust (windows worst)
Repair couplers, draft gear, diaphragms between cars
Repair seats and backs, take out and patch
Repair interior, includes overhaul Waukesha motors

2. Units 4574 and 4575 windows have been repaired.

3. All units were built in 1942 by the Milwaukee Railroad. They were rebuilt in 1968 except 4750 which was rebuilt in 1961. They were taken out of service August 1974.

4. The Chicago North Western Railroad submitted a quote of \$970,432 to repair the seven cars.
5. The Illinois Central Gulf Railroad has made an inspection of the seven cars and gave the following quotes: \$508,850 without toilets, \$525,713 repairing existing toilets, and \$532,228 with chemical toilets.

APPENDIX I

DETAILED ALTERNATIVE SPECIFICATION

I General comments

- A. For all alternatives except 7, new feeder bus services are defined as providing local collection distribution within each station service area and then running express to the nearest commuter rail station.
- B. For Alternative 7, new express bus services are defined as providing local collection/distribution within each station service area and then running express to the Chicago CBD, where they serve collection/distribution functions.
- C. The buses are assumed to be stored in the local communities, and all bus trips are round trips.

II Specific Alternatives

A Alternative 1: Rehabilitate the entire Rock Island System

- A) Union Station terminal in Chicago CBD
- B) LaSalle Street Station terminal in Chicago CBD

Passengers have their present access modes.

B. Alternative 2: rehabilitate from Joliet to Chicago via the Beverly Branch, Eliminate the Main Line from 127th Street to 87th Street

- A) Union Station terminal in Chicago CBD
- B) LaSalle Street Station terminal in Chicago CBD

Passengers on the Rock Island Main Line from 123rd Street to 95th Street take existing feeder buses to the Beverly Branch station. All other passengers have their present access modes.

C. Alternative 3: Rehabilitate the Main Line from Joliet to Chicago, Eliminate the Beverly Branch

- A) Union Station Terminal in Chicago CBD
- B) LaSalle Street Station Terminal in Chicago CBD

Passengers on the Beverly Branch Stations south of 103rd Street take feeder buses to the Rock Island Main Line stations, while the remainder of the Beverly passengers take feeder buses to the 95th/Dan Ryan rapid transit station. All other passengers have their present access modes.

D. Alternative 4: Rehabilitate the Beverly Branch from Blue Island to Chicago, Eliminate the Main Line from Joliet to Blue Island

- A) Union Station Terminal in Chicago CBD
- B) LaSalle Street Station Terminal in Chicago CBD

Passengers on the Main Line from Joliet to Robbins take the following feeder buses:

From Joliet:

Feeder bus to Illinois Central Gulf Diesel Joliet Station (via local streets)

From New Lenox:

Feeder bus to Illinois Central Gulf Diesel Joliet Station (via U.S. 30)

From Mokena:

Feeder bus to Illinois Central Gulf Electric Hazel Crest Station (via I-80)

From Tinley Park

Feeder bus to Illinois Central Gulf Electric Hazel Crest Station (via 175th Street)

From Oak Forest:

Feeder bus to Rock Island Vermont Street Station (via Cicero Ave, 127th Street)

From Midlothian

Feeder bus to Rock Island Vermont Street Station
(via Crawford, 127th St.)

From Robbins:

Feeder bus to Rock Island Vermont Street Station
(via Kedzie Ave, 127th St)

From Blue Island

Feeder bus to Rock Island Vermont Street Station
(via local streets)

Passengers on the Main Line from Blue Island to 87th Street take existing feeder buses to the Beverly Branch stations. Beverly Branch passengers have their present access modes.

- E. Alternative 5: Rehabilitate a Single Track on the Main Line from 87th Street to Joliet, and Rehabilitate the double tracks on the Beverly Branch and on the Main Line between 87th Street and Chicago

A) Union Station Terminal in Chicago CBD

B) LaSalle Street Station Terminal in Chicago CBD

Passengers have their present access modes.

- F. Alternative 6: Abandon the Rock Island and Feed the ICG Diesel, the ICG Electric Main and Blue Island lines, and the Dan Ryan Rapid Transit Line

Passengers take the following feeder buses:

From Joliet:

Feeder bus to Illinois Central Gulf Diesel Joliet Station (via local streets)

New Lenox

Feeder bus to Illinois Central Gulf Diesel Joliet Station (via U.S. 30)

From Mokena

Feeder bus to Illinois Central Gulf Electric Hazel Crest Station (via I-80)

From Tinley Park:

Feeder bus to Illinois Central Electric
Hazel Crest Station (via 175th St)

From Oak Forest

Feeder bus to Illinois Central Gulf Electric
Harvey Station (via U.S. 6)

From Midlothian:

Feeder bus to Illinois Central Gulf Electric
147th Street Station (via 147th St)

From Robbins:

Feeder bus to Illinois Central Gulf Electric
Blue Island Station (via local streets)

From Blue Island

Feeder bus to Illinois Central Gulf Electric
Blue Island Station (via local streets)

Beverly Branch Stations

Feeder bus to 95th/Dan Ryan Rapid Transit Station
(via local streets)

- G. Alternative 7: Abandon the Rock Island and Provide
Express Bus Service from each Station Area to
the Chicago CBD

Passengers who use transit take either the express
bus to the Chicago CBD or drive their automobiles
to other commuter rail lines. The express bus
routes are as follows:

From Joliet:

Express bus via I-80, I-57, Dan Ryan Expressway,
and local CBD streets

From New Lenox:

Express bus via I-80, I-57, Dan Ryan Expressway
and local CBD streets

From Mokena

Express bus via I-80, I-57, Dan Ryan Expressway,
and local CBD streets

From Tinley Park

Express bus via I-57, Dan Ryan Expressway and
local CBD Streets

From Oak Forest

Express bus via I-57, Dan Ryan Expressway and local CBD Streets

From Midlothian

Express bus via 147th Street, I-57, Dan Ryan Expressway and local CBD streets

From Blue Island:

Express bus via I-57, Dan Ryan Expressway and local CBD streets

Beverly Branch Stations:

Express bus via Western Ave, 95th St, Dan Ryan Expressway and local CBD streets

The passengers who drive to other commuter rail lines use the stations and routes that the feeder buses in Alternative 6 use.

H. Alternative 8: Abandon the Rock Island and Feed the 95th/Dan Ryan Rapid Transit Station

Passengers who use transit take either the feeder bus to the 95th/Dn Ryan Rapid Transit station or drive their automobiles to other commuter rail lines. The routes of the feeder bus are the same as those for Alternative 7, except that the buses exit I-57 to connect with the Dan Ryan Rapid Transit Station, and do not continue to the CBD. The routes of those who drive to other commuter rail stations are the same as those for Alternative 7.

APPENDIX II

DETAILED RAIL CAPITAL COSTS FOR ROCK ISLAND REHABILITATION

ROCK ISLAND TRACK REHABILITATION

The total rehabilitation of the Chicago Rock Island and Pacific Railroad from Joliet to 63rd Street (Englewood), is estimated to be \$11,651,554, plus \$2,480,000 for the suburban line, for a total of \$14,141,554. This estimate includes all bridge rehabilitation work, relaying certain sections of the railroad with new continuous welded rail and certain sections with relay continuous welding rail, 80 - 90% tie renewal, all highway at grade crossings, selective turnout replacement, rehabing signal system utilization of switch heaters, selective rail crossing replacement and finally sleding, undercutting and surfacing the track.

Upon completion, the right of way will be sprayed for weed control and improvements to all drainage appurtances will be finalized.

CAPITAL COST FOR TOTAL REHAB ROCK ISLAND RAILROAD

<u>Joliet - Blue Island, 23.9 miles</u>	<u>Per Mile/Unit</u>	<u>Miles/Units</u>	
Bridge Rehabilitation			795,512
Rail New Contin. Welded Rail	125,000	21.3	2,725,000
Rail Relay Cont. W.R.	25,000	15.0	375,000
Tie Renewal	22	129,536	2,849,792
Grade Crossing Renewal	8,000	19.	152,000
Turnout Replacement	20,000	6.	120,000
Turnout Tie Replacement	2,500	6.	15,000
Sled Undercut and Surface	20,000	50.6	1,012,000
Signal Upgrade	303,494		303,490
Power Switch Replacement	16,000		16,000
Switch Heaters	81,000		81,000
Rail Crossing Renewal	15,000	6	90,000
Salvage	10,000	21.3	(218,000)
		Total	8,316,798
<u>Joliet Station Upgrade</u>			
Platform Renewal	45,000		45,000
Wayside Rehabilitation	55,000		55,000
Station Rehabilitation	75,000		75,000
Lighting	10,000		10,000
		Total	185,000
		TOTAL	8,501,798
<u>Blue Island to Gresham, 5.8 Miles</u>			
Ties	22	29,696	653,312
Grade Crossing Rehabilitation	8,000	13	104,000
Switch Tie Renewal	20,000		20,000
Signal	206,274		206,274
Sled, Undercut and Surface	20,000	11.6	232,000
		TOTAL	1,215,586
<u>Gresham to 63rd, 3.3 Miles</u>			
Rail New CWR	125,000	3.1	387,500
Ties	22	16,396	371,712
Signal			72,858
Surfacing, Undercutting	20,000	6.6	132,000
Bridge and Retaining Wall rep.			771,100
Salvage	10,000	3.1	31,000
		TOTAL	1,704,170
<u>Joliet to 63rd Street</u>			
Weed Spray			55,000
R.O.W. Drainage and Clean up			175,000
		TOTAL	230,000

SUBURBAN LINE

Cross ties, 16,800 @ \$23.12 each	= \$ 388,400
Switch Ties, 8 sets No. 10 @ \$2290 each	= \$ 18,300
Undercut, ballast and surface (13.2 mi.) @ \$17,000/mile	= \$ 224,400
Remove spoil and restore Right-of-Way (Lump sum)	= \$ 50,000
Renew grade crossings, 44x56' X \$143	= \$ 352,300
New rail relay, 4.0 mi @ \$129,600/mi.	= \$ 518,400 ¹
Secondhand rail relay, 9.2 mi. @ \$38,800/mi.	= \$ 357,700 ²
	<hr/>
Total Estimated Cost	= \$ 1,909,500
Engineering & Supervision @ 8%	= <u>152,800</u>
Sub-Total	\$2,062,300
Contingencies @ 15%	<u>309,500</u>
Sub-Total	\$2,371,800
Project Management	<u>118,600</u>
	<u>\$2,490,400</u>

¹ Does not include replacing tie plates; includes 1 turnout per mi., no Salvage.

² Does not include replacing tie plates or relaying turnouts, no Salvage credit.

63rd TO UNION STATION

ROCK ISLAND/CONRAIL CONNECTION AND SIGNALLING AT 63 rd TO UNION STATION.	\$ 2,100,000
MODIFY UNION STATION BAGGAGE PLATFORMS	690,000
STAIRWAYS FROM PLATFORMS TO JACKSON BLVD.	450,000
STAIRWAY HEADHOUSE AT JACKSON BLVD.	200,000
ESCALATOR FOR PASSENGER CONCOURSE TO CANAL STREET	210,000
EXTEND STREET LEVEL CANOPY TO ADAMS STREET	85,000
YARD ACCESS SWITCH AND RELATED TRACK WORK FOR CONNECTION TO BN YARD	97,000
ELECTRIC STANDBY POWER INSTALLATION	400,000
INSTALL THREE RADIO STATIONS	17,000
REHABILITATE INTERLOCKING PLANT COMPRESSORS	80,000
MISC YARD IMPROVEMENTS	100,000
SUB-TOTAL	4,429,000
CONTINGENCIES	664,350
TOTAL	5,093,350

63rd TO LASALLE STREET STATION

REPAIR AND PAINT BRIDGES	\$ 1,215,100
REPAIR AND PAINT TRACK SUPPORTING STRUCTURES AT STATION	6,318,700
REMOVE TRAIN SHED AND CONSTRUCT CANOPIES	1,244,400
SIGNAL AND INTERLOCKING FACILITIES	1,717,000
CROSS TIE AND RAIL ANCHOR REPLACEMENT	399,100
SWITCH TIE RENEWAL	31,500
TURNOUT REPAIRS	98,000
SURFACING AND BALLASTING	177,500
REPAIR 47 th AND 51 st STREET SHOP FACILITIES	264,000
POLLUTION CONTROL FACILITIES AT 47 th - 51 st STREET SHOPS	3,030,000
INTERLOCKERS	<u>2,750,000</u>
TOTAL (CONTINGENCIES INCLUDED)	17,245,300

APPENDIX III
DETAILED EQUIPMENT COST

	Unit Cost
50 Passenger Bus	\$ 75,000
Rapid Transit Car	450,000
Bi-level Commuter Car	596,000
Diesel Locomotive	571,000
ICG Electric Cars	755,000

APPENDIX IV

DETAILED COMMUTER RAIL OPERATING COSTS, BY ALTERNATIVE

ROCK ISLAND COSTS

Alt 1A Joliet to Union Station

M-O-W		700
M-O-E		2170
Traffic		100
Transp.	4800	
	Conrail trackage charge	680
	CUS Charges ¹	1369
	Other	<u>(100)</u>
		6749
General		340
Rent & Taxes		<u>1150</u>
Total		11209

Alt 1B Joliet to LaSalle

M-O-W	950
M-O-E	1970
Traffic	130
Transp.	4800
General	400
Rent-Taxes	<u>1250</u>
Total	9500

¹ Assumes CUS charge of \$15.00 per car. The exact price is subject to negotiation between the Rock Island and RTA. The ridership attracted by the alternative requires 365 daily car movements.

Alt. 2A Joliet to CUS via Suburban Branch

M-O-W		650
M-O-E		2170
Traffic		100
Transp.	4800	
Conrail trackage charge	660	
CUS charges ¹	1238	
Other	<u>(300)</u>	6398
General		330
Rent-Taxes		<u>1130</u>
Total		10,778

Alt. 2B Joliet to LaSalle via Suburban Branch

M-O-W		900
M-O-E		1970
Traffic		130
Transp.	4800	
Other	(200)	4600
General		390
Rent-Taxes		<u>1230</u>
Total		9220

¹Assumes CUS charge of \$15.00 per car. The exact price is subject to negotiation between the Rock Island and RTA. The ridership attracted by the alternatives requires the existing 340 daily car movements.

Alt. 3A Joliet to CUS via Main Line

M-O-W	300,000 ¹
M-O-E	2,170,000
Traffic	100,000 ²
Transp.	3,550,000 ²
Conrail Trackage Chge.	480,000 ²
CUS Charges	970,000 ³
Other	<u>(100,000)</u>
General	340,000
Rents & Taxes	<u>900,000</u>
Total	8,710,000

Alt. 3B Joliet to LaSalle via Main Line

M-O-W	550,000
M-O-E	1,970,000
Traffic	130,000 ²
Transp.	3,550,000 ²
General	400,000
Rents & Taxes	<u>1,000,000</u>
Total	7,600,000

¹Assumes \$400,000 maintenance-of-way for Beverly Branch

²Assumes 26 percent fewer trains due to lower ridership

³Assumes CUS charge of \$15.00 per car. The exact price is subject to negotiation between the Rock Island and the RTA. Assumes 29 percent fewer daily car movements.

Alt. 4A Vermont St. to CUS

M-O-W		250
M-O-E		1300
Traffic		60
Transp.	4800	
	Conrail trackage charge	400
	CUS charges ¹	1275
	Other	<u>(1600)</u>
		4875
General		200
Rent-Taxes		<u>750</u>
Total		<u>7435</u>

Alt. 4B Vermont St. to LaSalle, Suburban Branch

M-O-W		700
M-O-E		1180
Traffic		70
Transp.	4800	
	Other	<u>(1500)</u>
		3300
General		240
Rent-Taxes		<u>850</u>
Total		<u>6340</u>

¹ Assumes CUS charge of \$15.00 per car. The exact price is subject to negotiation between the Rock Island and RTA. The ridership attracted by the alternative requires 340 daily car movements.

Alt. 5A Single Track Joliet to Union

M-O-W		1850
M-O-E		2170
Traffic		100
Transp.	4800	
Conrail trackage charge	680	
CUS charges ¹	1369	
Other	<u>300</u>	7149
General		300
Rent-Taxes		<u>1200</u>
Total		12,769

Alt. 5B Single Track Joliet to LaSalle

M-O-W		2450
M-O-E		1970
Traffic		130
Transp.	4800	
Other	<u>300</u>	5100
General		400
Rent-Taxes		<u>1400</u>
Total		11,450

¹Assumes CUS charge of \$15.00 per car. The exact price is subject to negotiation between the Rock Island and RTA. The ridership attracted by the alternative requires 365 daily car movements.

ICG Costs

Two additional ICG diesel trains (assumes double the current costs for a single train)

	<u>Annual Cost</u>
Maint. of Way	\$40,000
Maint. of Equip.	96,000
Traffic	-
Transportation	340,000
General	-
<u>Rents & Taxes</u>	<u>113,000</u>
	\$589,000

Three additional ICG Main Line electric 4-car trains
60 mi/day X 12 cars X 250 days = 180,000 car mi/year (4% increase)

Maint. of Way	97,000
Maint. of Equip.	136,000
Traffic	3,000
Transportation	423,000
General	56,000
<u>Rents & Taxes</u>	<u>120,000</u>
	835,000

Four additional ICG Main Line Electric 4-car trains
60 mi/day X 16 cars X 250 days = 240,000 car mi/yr. (5% inc.)

Maint. of Way	122,000
Maint. of Equip.	170,000
Traffic	4,000
Transp.	529,000
General	70,000
<u>Rents & Taxes</u>	<u>150,000</u>
Total	1,045,000

Five additional ICG Main Line Electric Trains (4 4-car, 1 6-car)
60 mi/day X 22 cars X 250 days = 330,000 car mi/yr (7% inc.)

M-O-W	170,000
M-O-E	238,000
Traffic	6,000
Transp.	740,000
General	98,000
<u>Rents & Taxes</u>	<u>210,000</u>
Total	1,462,000

One additional ICG Electric 4-car Blue Island Train
40 mi/day X 4 cars X 250 days = 40,000 car mi/yr. (1% inc.)

M-O-W	24,000
M-O-E	34,000
Traffic	1,000
Transp.	106,000
General	14,000
<u>Rent & Taxes</u>	<u>30,000</u>
<u>Total</u>	<u>209,000</u>

Three additional ICG Electric Main Line Trains (2 4-car, 1 6-car)
60 mi/day X 14 cars X 250 = 210,000 (5% inc.)

Same as four 4-car trains (above)

Alternative Specific Requirements

- Alt. 4A, 4B: 2 additional 3-car ICG diesel trains
 3 additional 4-car ICG electric Main Line
 trains
- Alt. 6: 2 additional 3-car ICG diesel trains
 5 additional ICG electric Main Line Trains
 (4 4-car trains, 1 6-car train)
 1 additional 4-car ICG Blue Island train
 (2 cars are added to existing trains)
- Alt. 7: 2 additional 3-car ICG diesel trains
 3 additional ICG electric Main Line trains
 (2 4-car, 1 6-car train)
 1 additional 4-car ICG Blue Island train
- Alt. 8: 2 additional 3-car ICG diesel trains
 4 additional 4-car ICG electric Main Line
 trains
 1 additional 4-car ICG Blue Island train

APPENDIX V

DETAILED BUS AND RAPID TRANSIT OPERATING AND CAPITAL COSTS

Bus Operating Cost Calculations

Bus operating costs for each alternative were calculated on a station by station basis. Local collection/distribution in the service area of the station and express service to the alternative commuter rail station, rapid transit station or the Chicago CBD, as specified under each alternative, was assumed. Round trip route miles were calculated for bus trips from each station area under each alternative.

The number of bus trips required was calculated by dividing the estimated number of passengers in a station service area by 50, the number of seats per bus. An operating cost of \$1.30 per bus mile was assumed. The formula for calculating annual bus operating costs for each station area under each alternative was:

$$\begin{aligned} & (\text{trips}) \times (\text{round trip route miles}) \times (\$1.30) \times (2 \text{ trips/day}) \\ & \times (250 \text{ days/year}) \end{aligned}$$

The costs for each station area were added under each alternative to arrive at the annual bus operating cost for that alternative.

Bus Capital Cost Calculations

Bus capital costs for each alternative were also calculated on a station by station basis. The number of buses required was determined by dividing the number of trips required from each station area by the number of repeat trips possible by the same vehicle within the 1½ hour rush period, and adding 10 percent for spares. The cost of a bus assumed was \$75,000.

The formula for calculating capital costs was:

$$(\text{buses required}) \times (\$75,000)$$

The bus costs for each station area were added under each alternative to arrive at the capital cost for that alternative.

Rapid Transit Operating Cost Calculations

The operating cost for each alternative assumed a Howard-Dan Ryan routing, a one-way trip per rush hour and car loadings of 100 passengers. The formula for calculating annual rapid transit operating cost for each alternatives was:

$(45.4 \text{ round trip route miles}) \times (\text{required cars}) \times (\$1.81 \text{ per vehicle mile}) \times (250 \text{ days/year})$

Rapid Transit Capital Cost Calculations

Rapid transit capital costs for each alternative were calculated by multiplying the number of cars required for former Rock Island passengers plus ten percent for spares, by \$450,000, the cost per car.

APPENDIX VI
DETAILED POPULATION PROJECTIONS

<u>Township</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>		
Bremen Cook	93,400	131,200	163,900	170,000		
Frankfort Will	9,600	15,300	25,000	32,000		
New Lenox Will	10,000	16,000	29,000	40,500		
Joliet Will	96,000	105,000	112,000	117,500		
<u>Municipality</u>	<u>1970</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>
Blue Island Cook	22,629	25,000	26,100	27,100	27,800	28,800
Merrionette Park Cook	2,303	2,500	2,500	2,500	2,500	2,500
Midlothian Cook	15,939	17,200	18,500	19,700	20,400	21,400
Robbins Cook	9,641	11,100	11,400	11,700	12,200	12,600
Tinley Park Cook	12,382	30,900	34,600	38,800	52,000	62,300
Joliet Will	78,887	94,500	123,900	153,200	174,100	199,800
Mokena Will	1,643	3,200	6,800	10,300	14,100	18,900
New Lenox Will	2,855	8,700	16,200	23,700	31,800	42,300

Beverly Area of Chicago
1970 pop. = 26,771
1974 pop. = 26,668

Source: Northeastern Illinois Regional Planning Commission

APPENDIX VII

TERMINATION OF ROCK ISLAND AT MICHIGAN CENTRAL YARDS, JOLIET

A considerable savings can be realized by terminating the commuter line just south of the Michgian Central Railroad's interlocking plant, a distance of 0.5 miles from Joliet Union Station. At this location a new facility in the MC yard which would include a new station similar to the Milwaukee Road's Bensenville station with the inclusion of a crew's quarter for the trainmen and engineers would be built. Also included: the wayside facility relay, continuous welded rail on all tracks, surfacing of all tracks selective turnout renewal, tie renewal, and parking facility including lighting.

The total cost for this new facility is estimated to be \$785,720 including property. The cost to upgrade the Rock Island from Center Street to the interlocking plant is estimated to be \$2,164,238. In addition to a capital cost savings of \$1,378,518 there would be the added annual savings in maintenance of the new facility as compared to the old Joliet Union Depot.

From a service standpoint the move may have an adverse impact in that a transportation center, combining bus, commuter rail, and Amtrak service is being considered at Joliet Union Station. If the center were not built, the impact would be slight in that most passengers arrive at Joliet Union Station by automobile, and could easily access the new station. Furthermore, the bus system could be redesigned to serve a station at the Michgian Central Yards.

COST OF REHABILITATING ROCK ISLAND FROM
CENTER STREET TO M.C. YARD

<u>inline</u>	<u>Quantity</u>	<u>Improvement Cost</u>	<u>Operating Cost</u>	<u>Total</u>
les 80% renewal	9,524	22		209,528
urface	4	2,200		8,800
B (Bridges only)		795,512		795,512
ignal (ex interlock)				12,752
ew CWR	232.4	302		70,185
	23,808	3.50		83,328
isc. O.T.W.	3.72	10,000	37,200	
abor	3.72	5,000		18,600
allast Cleaner	3.72	18,000		66,960
ower Stitch repl		16,000	16,000	
witch Heaters		81,000		81,000
ail Crossing Renewal	6	15,000		90,000
nterlocking Cost			17,000	
			SUB TOTAL	1,506,865
<u>tation</u>				
tation Cost			13,386	13,386
latform Renewal		45,000		45,000
ayside Rehab		55,000		55,000
tation Rehab		150,000		150,000
arking	200	1,000		200,000
ighting				10,000
			SUB TOTAL	473,386
<u>ard Up Grade</u>				
ies	2,544	20		50,880
	1,870	20		37,400
urfacing		4,400		4,400
leding		10,000		10,000
urnouts 6 NI-				56,000
WR	73.04	250		18,260
abor		4,752		4,752
l	8,828	3.20		28,250
is OTM	.83	10,000		8,300
			SUB TOTAL	218,242
			TOTAL	2,198,493
crap Total				(34,255)
			GRAND TOTAL	2,164,238

COST OF NEW STATION AT M.C. YARD

	Quantity	Cost	TOTAL
Station	1	80,000	80,000
Locker Rm Addition	1	40,000	40,000
Platform & Paving	1	50,000	50,000
Sled Track	5 tracks	17,000	17,000
Tie Renewal	2,560	22	56,320
Surfacing	1	4,400	4,400
Parking	200	1,000	200,000
Standby	1	100,000	100,000
Lighting	1	15,000	15,000
Property	6	10,000	60,000
CWR	1	100,000	100,000
Turnout Install ML	1	20,000	20,000
Turnout Install Side Track	6	10,000	<u>60,000</u>
		SUB TOTAL	802,720
Salvage			<u>(17,000)</u>
		TOTAL	<u>785,720</u>

SUMMARY COST TABLE

3.72 Mi Main Line CRI&P	1,506,865
Joliet Union Station Rehab.	473,386
Yard Up-Grade	218,242
Salvage	<u>(34,255)</u>
	2,164,238
M.C. Yard Rehab and New Station Facility	<u>785,720</u>
SAVINGS	1,378,518



8/4/2008
WT 140786 1 72 00



HF GROUP-IN

